Service Manual

Black and White Television

TR-579EX

Chassis No.T203V-A

Main Manual

Specifications

Power source:	AC: 120V, 220V, 50/60Hz
Power Consumption:	AC: 69W
Antennas:	UHF/VHF Dipole Antenna 75 Ohm, Unbalanced type. UHF & VHF external Antenna 300 Ohm, Balanced type.
Receiving Channels:	U.S.A. Channel: VHF Ch2–Ch13 U.S.A. Channel: UHF Ch14–Ch83 C.C.I.R. Channel: VHF Ch3–Ch11 C.C.I.R. Channel: UHF Ch21–Ch69 U.S.A. (Europe): VHF Ch3–Ch11 U.S.A. (Europe): UHF Ch14–Ch83
Intermediate Frequency:	Video 45.75MHz Sound 41.25MHz (U.S.A. Channel and U.S.A. Europe Channel) Sound 40.25MHz (C.C.I.R. Channel)
Intermediate Frequency Band Width:	Over 3MHz
Speaker:	3-3/8 inches round type voice coil 8Ohm
Audio Output:	Max. 1.5W
Picture Tube:	500XB4 55cm P-Tube 110°Deflection Aluminized Heater Voltage 6.3V Heater Current 300mA
Transistor:	29
Diodes:	22
Thermistor:	3
H.V. Rectifier	1 (TVM570)
Automatic Control Circuits:	Keyed AGC (Automatic Gain Control) AVR (Automatic Voltage Regulator) Saw-Tooth AFC (Automatic Frequency Control)
Dimensions:	Height: 40.5cm (1 5–15/16 inches) Width: 56.0cm (22-1/16 inches) Depth: 35.0cm (13-13/16 inches)
Weight:	17.7kg (39-1/16 lbs.)

National

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan
ORDER NO.TED-7511-037F

CAUTION

The high voltage supply at the picture tube anode will give an unpleasant shock, but does not supply enough current to give a fatal burn or shock. However, secondary human reaction to otherwise harmless shocks have been known to cause injury. Always discharge the picture tube anode to the receiver chassis before handling the tube. Certain portions of the high voltage generating circuit are dangerous and extreme caution should be observed. The picture tube is highly evacuated and, if broken, glass fragments will be violently expelled.

WHEN HANDLING THE PICTURE TUBE, ALWAYS WEAR GOGGLES AND PROTECTIVE CLOTHING.

LOCATION OF CONTROLS

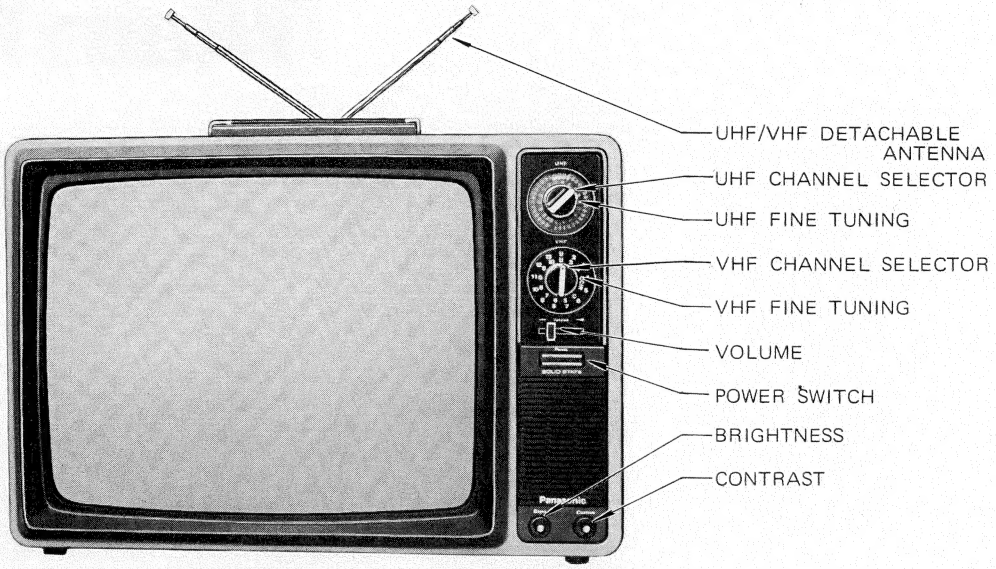


Fig. 1.

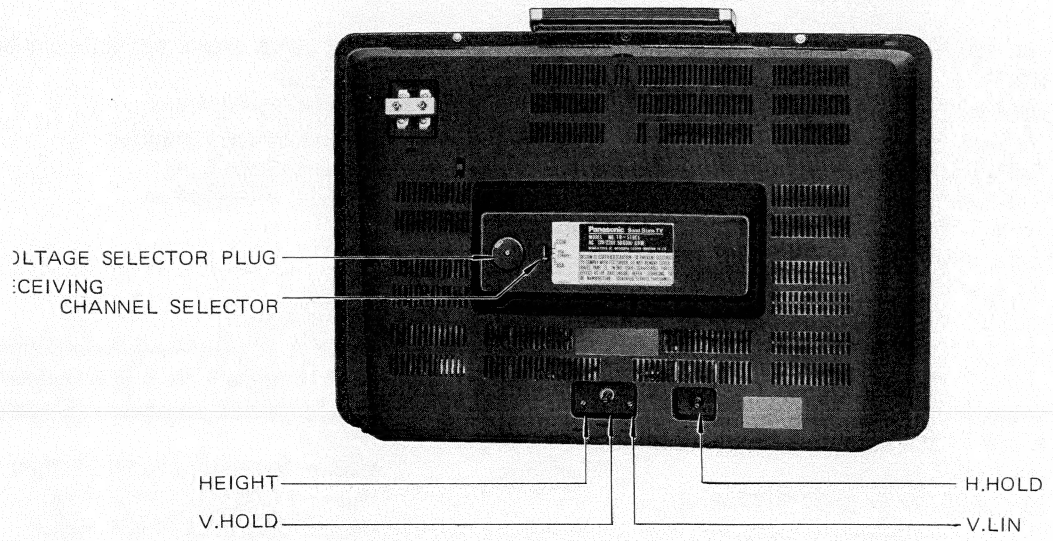


Fig. 2.

ADJUSTMENTS

VOLTAGE SELECTOR PLUG (Fig. 2)

Before using the TV set, observe the position of the voltage selector is set at the correct voltage supplied in your area.

VERTICAL HEIGHT AND VERTICAL LINEARITY (Fig. 2)

These controls should be adjusted simultaneously to give proper vertical size consistent with good vertical linearity.
Adjustment should be made to extend the picture limits approximately 5mm beyond the top and bottom edges of the mask.

FOCUS

Adjust for the sharpest and clearest picture.

AGC (Fig. 3)

The adjustment of the AGC control effectively changes the operating point of the AGC amplifier. Turn the AGC control fully clockwise to set for maximum gain. In some areas this may cause clipping of the sync, pulses, resulting in a "wiggle" in the picture and unstable sync. Turning the AGC control to a counterclockwise direction will decrease the gain of the receiver.

TO ADJUST THE AGC PROPERLY

(1) Set the channel selector to a channel transmitting a strong signal.
(2) Set the R-F AGC control VR12 to the center position (see Fig. 3).
(3) Turn the I-F AGC control VR11 fully counterclockwise, and the contrast and brightness controls fully clockwise.
(4) Adjust the I-F AGC control VR11 to obtain the sharp and clear picture. If I-F AGC control VR11 is turned fully clockwise, the picture may get dark and turned fully counterclockwise, it may get bright.
(5) Observing the picture, turn the R-F AGC control VR12 clockwise or counterclockwise to the point where the snow noise disappears in the picture. (Fig. 3)
(6) Check the reception on all channels. These should be no wiggling. Make certain the picture does not disappear when the contrast control is turned to minimum.
(7) Re-adjust AGC control slightly if necessary. In very strong signal areas where slight sync. clipping is still evident, shorten antenna length to reduce sensitivity of the set.

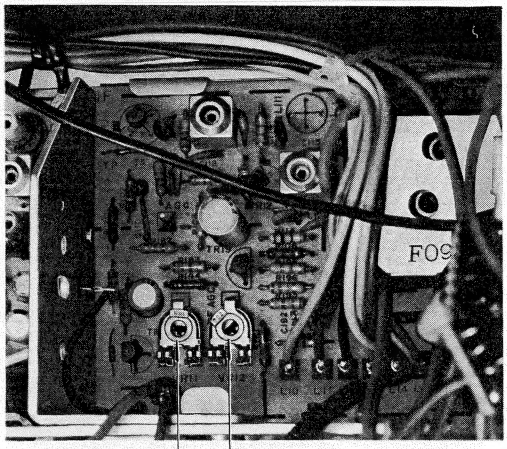


Fig. 3.

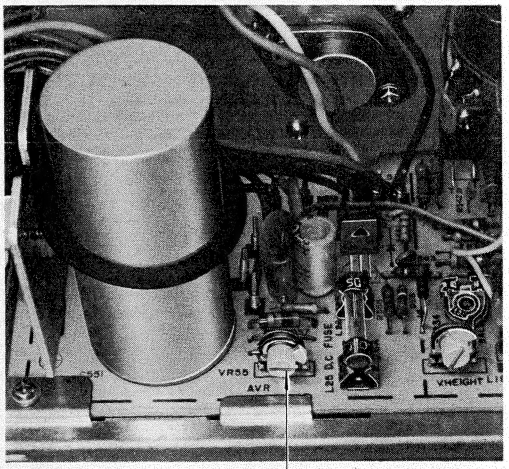


Fig. 4.

YOKE POSITION (Fig. 5)

The yoke is secured to the neck of the picture tube with an angular clamp and screw. To adjust the yoke and correct for picture tilt,loosen this clamp, correct tilt and re-tight the screw.

CENTERING (Fig. 5)

The picture centering device consists of two rings located at the rear of the yoke assembly. Each ring has a tab for ease of adjustment.
The tabs should be rotated and moved towards or away from each other until the picture is properly centered on the screen of the picture tube.

AVR (AUTOMATIC VOLTAGE REGULATOR) (Fig. 4)

Connect a circuit tester across B + supply line and chassis.
Next make certain B + supply voltage is B + 110V by adjusting the AVR control.

HORIZONTAL WIDTH

Adjust the slug of the coil to extend the picture about 13mm beyond the mask with the brightness control set to normal operating position.

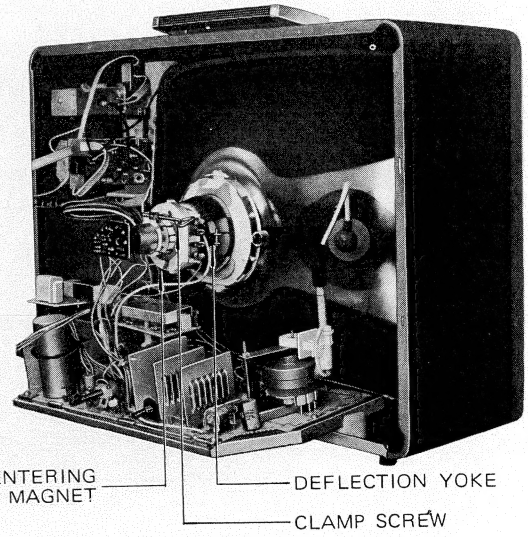


Fig. 5.

DISASSEMBLY INSTRUCTIONS

REAR COVER REMOVAL

(1) Remove 3 screws (A) from the rear cover shown in Fig. 6.

MAIN CIRCUIT BOARD REMOVAL

(1) Remove the rear cover.
(2) Pull the circuit board towards you and lift it up.

TUNER BLOCK REMOVAL

(1) Remove the rear cover.
(2) Pull off the channel knobs from tuner shaft (See Fig. 1).
(3) Remove 2 screws (B) shown in Fig. 7.

SPEAKER REMOVAL

(1) Remove the rear cover.
(2) Remove 4 screws (C) shown in Fig. 7.

PICTURE TUBE REMOVAL

(1) Remove the rear cover and the Main circuit board.
(2) Remove 4 mounting screws (D) shown in Fig. 8.

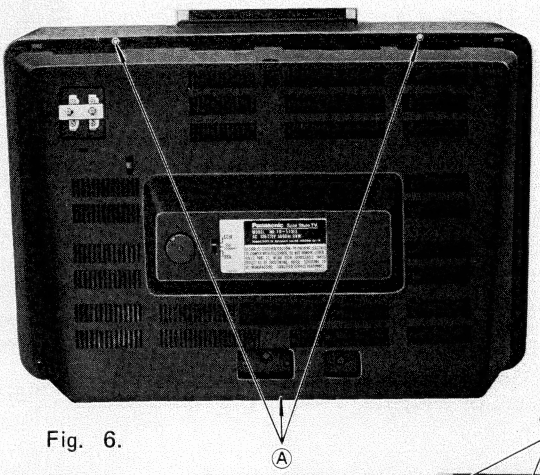


Fig. 6.

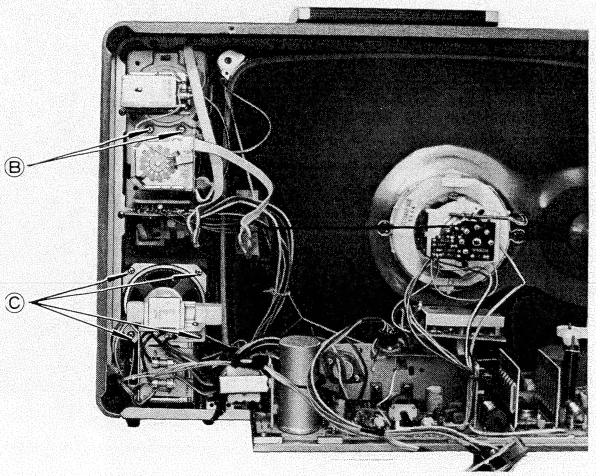


Fig. 7.

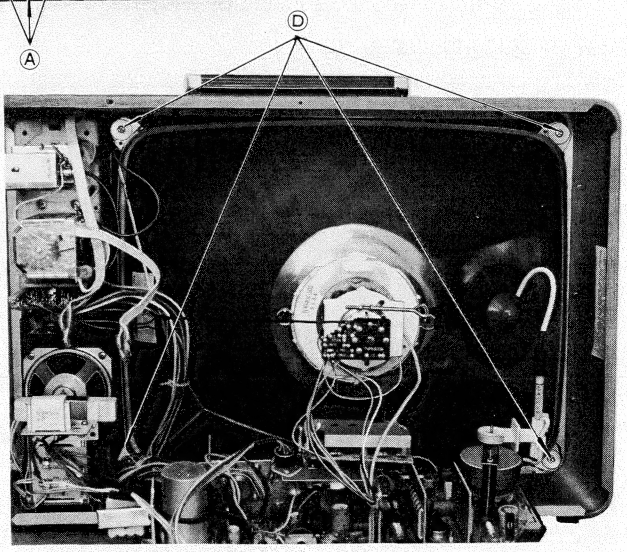


Fig. 8.

VIDEO I-F ALIGNMENT

Equipment Required

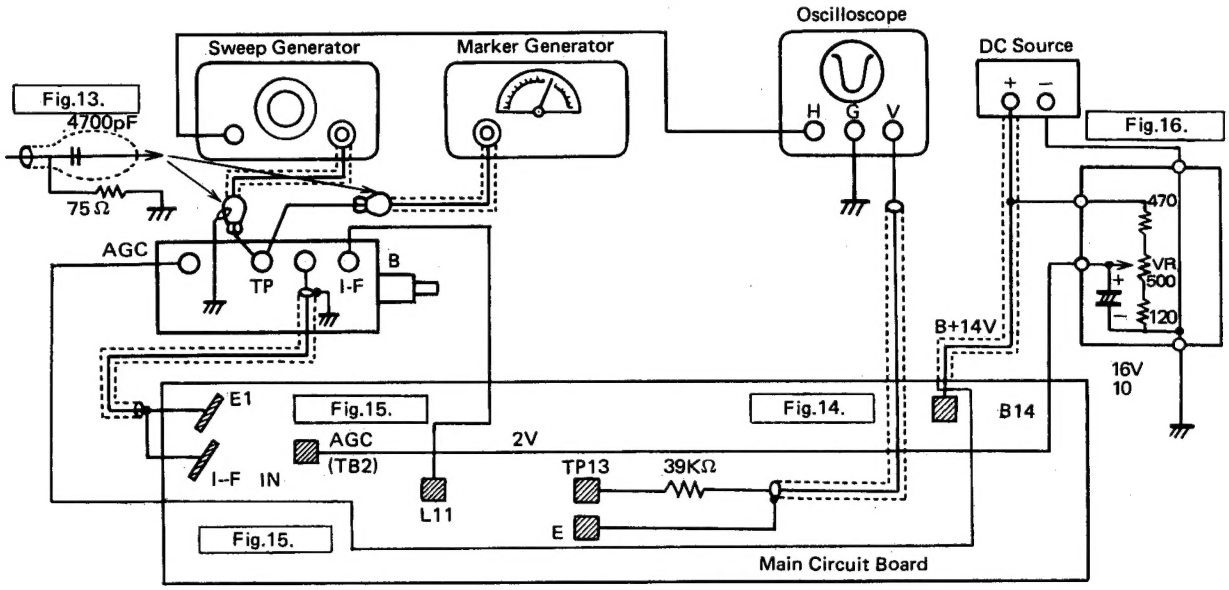
Sweep Generator ..... With a range of 33 to 41MHz.
Marker Generator ..... With a range of 33 to 41MHz.
Oscilloscope .....
Bias Box ..... With an output voltage of DC 0 to 30V.

Preparation

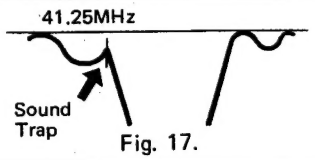
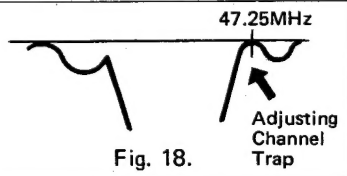
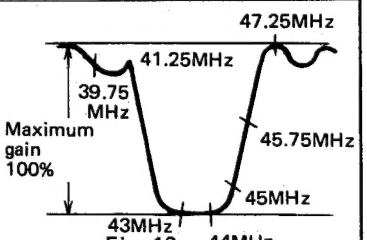
VHF Channel Selector ..... Highest unused channel in the area.

Equipment Connection

1. Connect a sweep generator to the tuner test point as shown in Fig. 13
2. Loosely couple a marker generator to the output lead of the sweep generator.
3. Connect oscilloscope to the video amplifier input terminal TP13 as shown in Fig. 14.
4. Apply 2V to the I-F AGC terminal TP12 as shown in Fig. 15.
5. Apply 14V to the DC bias terminal B14 as shown in Fig. 16.



Adjustments

STEP 1 Adjust L101 for minimum gain at 41.25MHz as shown in Fig. 17.	 Fig. 17.
STEP 2 Adjust L102 for minimum gain at 47.25MHz as shown in Fig. 18.	 Fig. 18.
STEP 3 Adjust both L103 and Tuner convertor coil to obtain the correct overall response curve as shown in Fig. 19.	 Fig. 19.

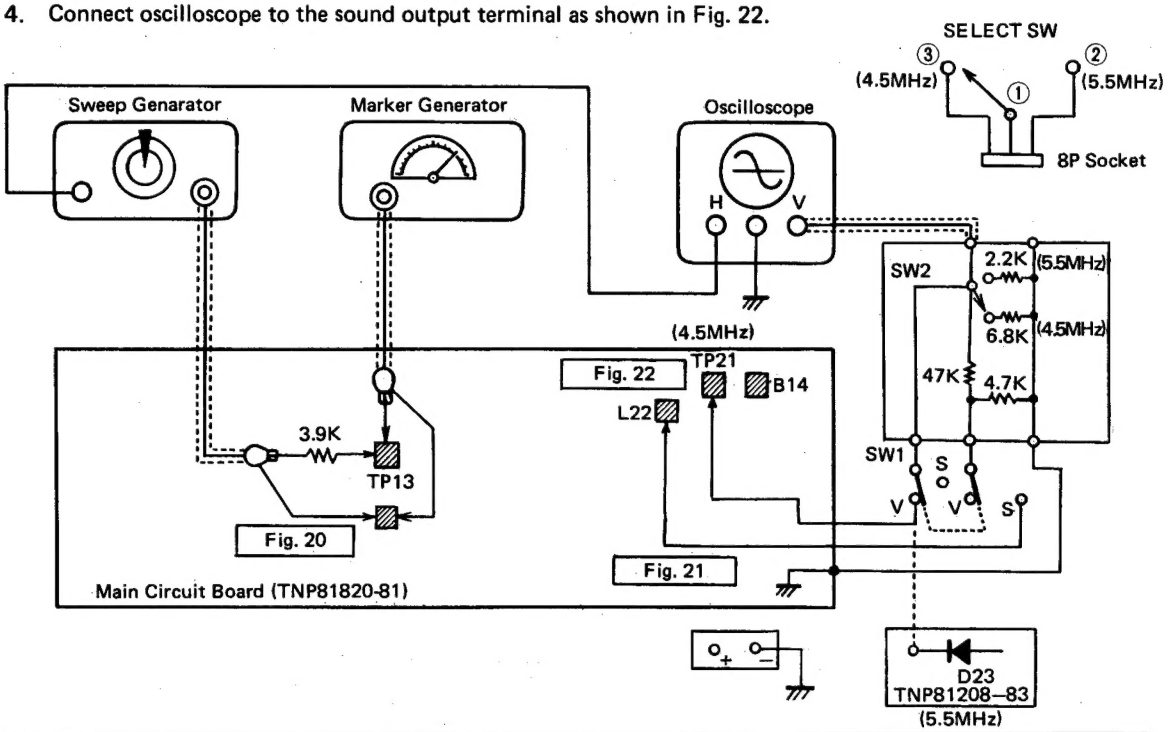
SOUND I-F ALIGNMENT

Equipment required

Sweep Generator ..... With a range of 4.4 to 5.6MHz.
Marker Generator ..... With a range of 4.4 to 5.6MHz.
Oscilloscope .....
Bias Box ..... With an output voltage of DC 0 to 15V.

Equipment Connection

1. Connect a sweep generator to the video amplifier input terminal TP13 as shown in Fig. 20.
2. Loosely couple a marker generator to the output lead of the sweep generator.
3. Apply 14V to the DC bias terminal B14 as shown in Fig. 21.
4. Connect oscilloscope to the sound output terminal as shown in Fig. 22.



4.5MHz ADJUSTMENT		5.5MHz ADJUSTMENT	
STEP 1	Turn the core of the L203 until the 4.5MHz marker is at the center of the "S" curve as shwon in Fig. 23.	STEP 1	Turn the core of the L253 until 5.5MHz marker is at the center of the "S" curve as shown in Fig. 25.
STEP 2	Adjust L201 and L202 obtain the symmetrical linearity of the "S" shaped curve as shown in Fig. 24.	STEP 2	Adjust L251 and L252 obtain the symmetrical linearity of the shaped curve as shown in Fig. 24.

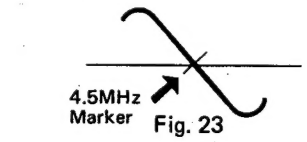
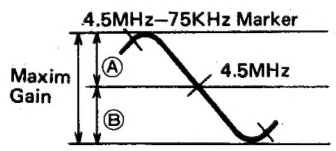


Fig. 23



Ⓐ=Ⓑ Fig. 24 4.5MHz+75KHz Marker

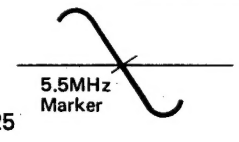
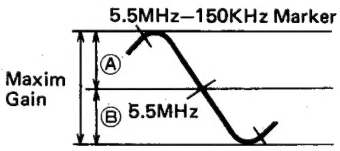


Fig. 25



Ⓐ=Ⓑ Fig. 26 5.5MHz+150KHz Marker

A/E CONVERTER ALIGNMENT

A/E CONVERTER ALIGNMENT

EQUIPMENT.....4.5 MHz SWEEP GENERATOR
MARKER GENERATOR
OSCILLOSCOPE

PREPARATION

1. Connect the marker generator, the sweep generator and oscilloscope as you do for sound I-F alignment.
2. Connect the jumper lead as shown in **Fig. 9.**
3. Turn the power switch ON.

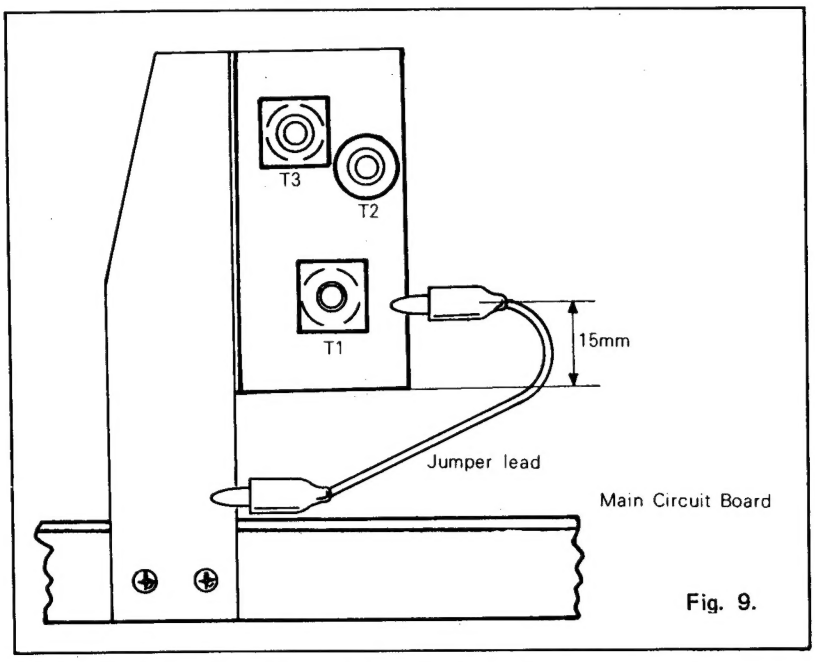
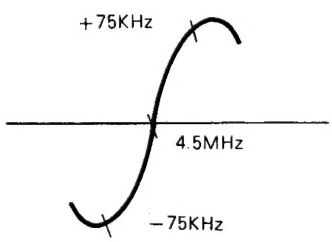


Fig. 9.

ALIGNMENT PROCEDURE

STEP	WAVEFORM
1. Before adjusting the A/E converter, adjust 5.5 MHz sound I-F. 2. Adjust T1 and T2 for the maximum gain at +75 KHz and −75 KHz marker position. 3. Turn the core of T2 until the 4.5 MHz marker is at the center of the "S" curve as shown in **Fig. 10.**	 **Fig. 10.**

NEW CIRCUIT EXPLANATION
A/E CONVERTER

A/E CONVERTER CIRCUIT EXPLANATION

A/E converter is a frequency changer of Sound I-F from 4.5 MHz (American Sound I-F) to 5.5 MHz (European Sound I-F). Connects the A/E converter to European standard system TV set, and you can watch American broadcasting.

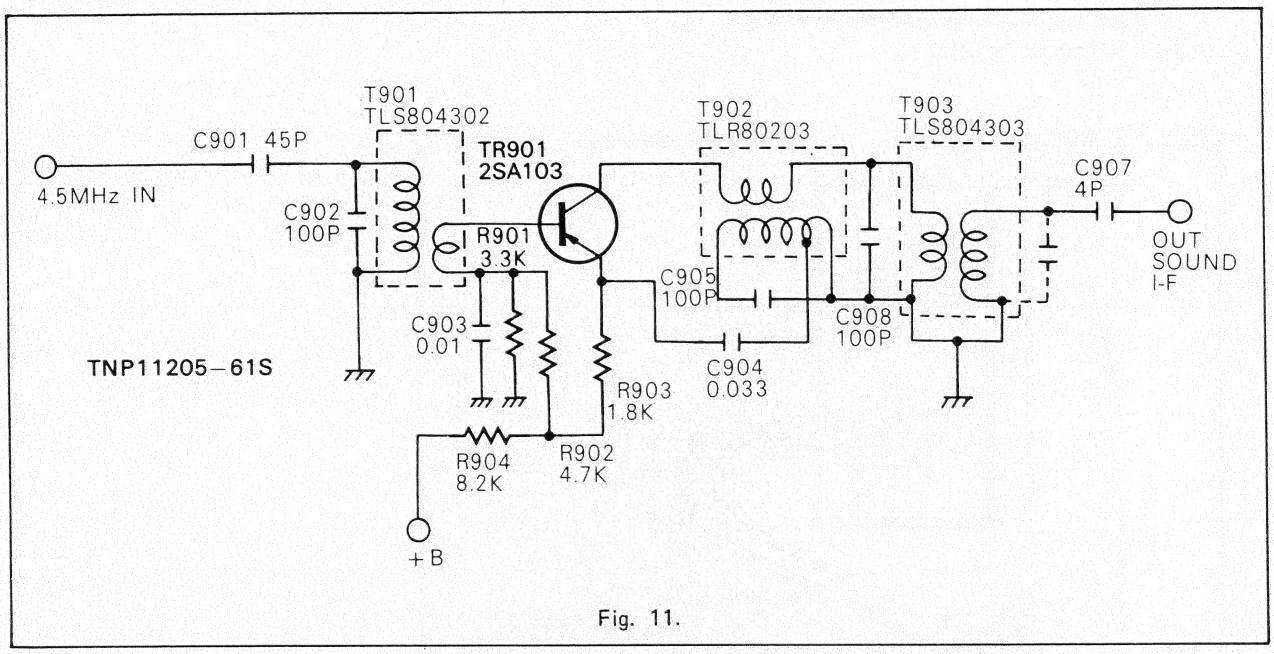


Fig. 11.

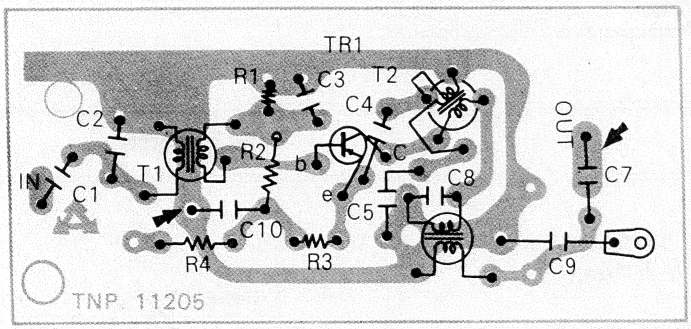


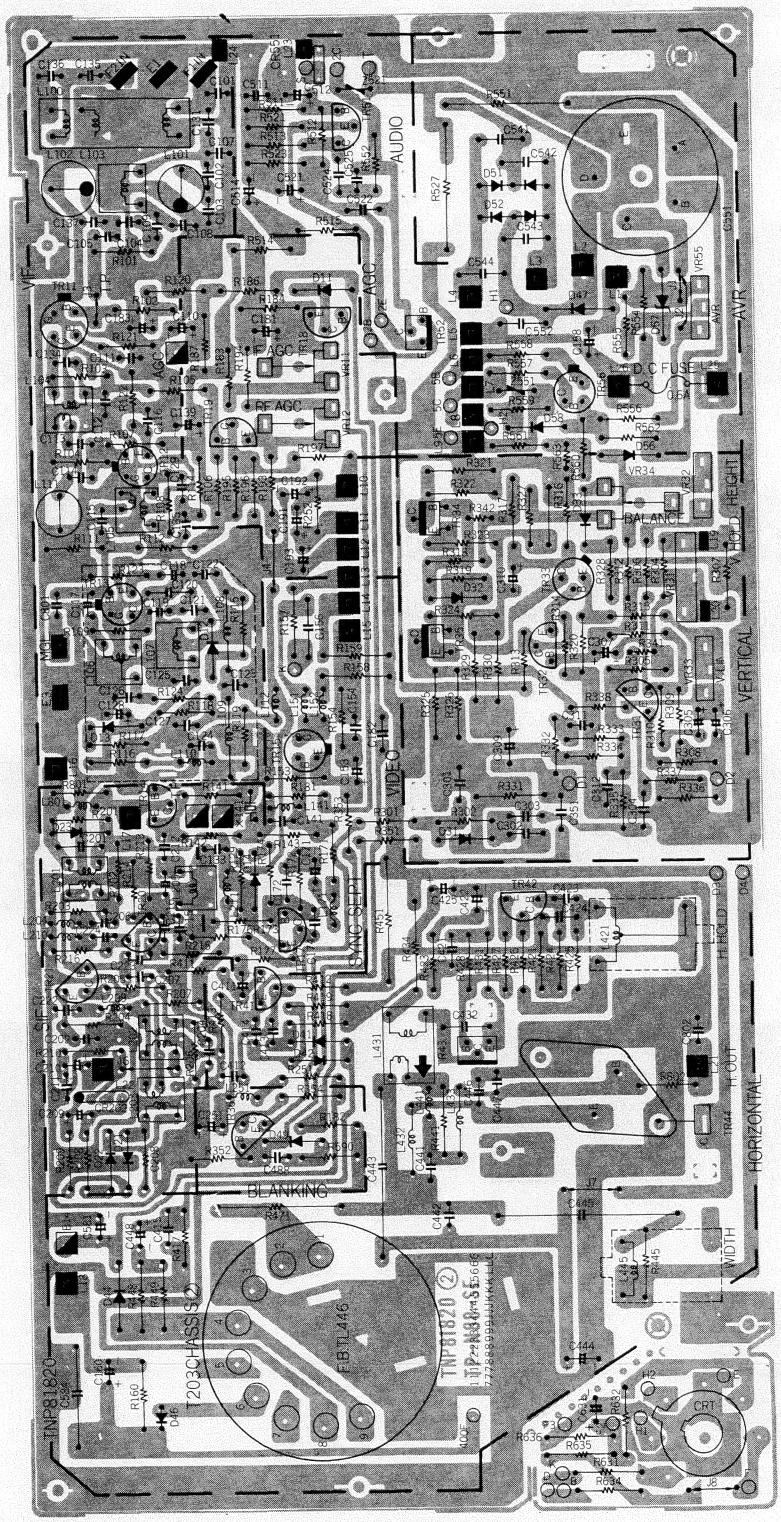
Fig. 12.

OPERATION

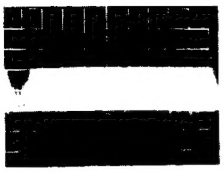
1. Sound I-F signal of 4.5 MHz is applied to A/E converter through C901.
2. The signal is applied to the Base of TR901 through T901.
3. The self-oscillation circuit is composed of TR901, T901 and C905 in which 1 MHz carrier is continuously oscillated.
4. 4.5 MHz I-F signal is converted to 5.5 MHz I-F signal in TR 901.
5. This converted 5.5 MHz I-F signal is derived from T903 and is applied to Sound I-F amp. circuit through C907.

MAIN CIRCUIT BOARD

CONDUCTOR VIEW (TNP81820-81)

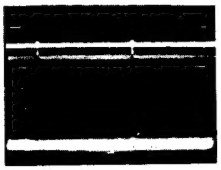


WAVEFORM PATTERNS

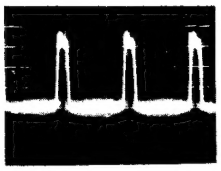


① 0.8Vp-p

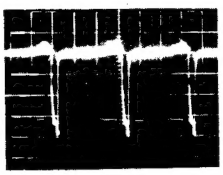
② 60Vp-p



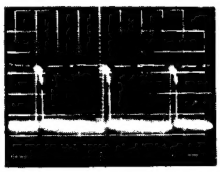
③ 11Vp-p



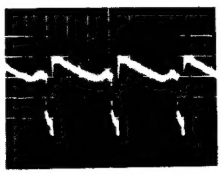
④ 18Vp-p



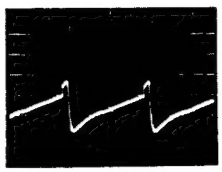
⑤ 7Vp-p



⑥ 7Vp-p



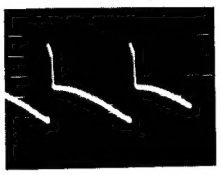
⑦ 7Vp-p



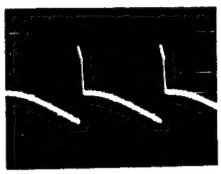
⑧ 2.6Vp-p

⑨ 0.8Vp-p

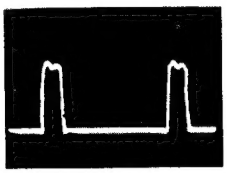
⑩ 0.7Vp-p



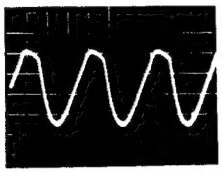
⑪ 80Vp-p



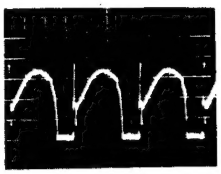
⑫ 80Vp-p



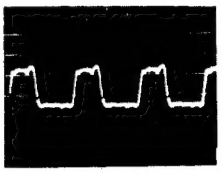
⑬ 0.96Vp-p



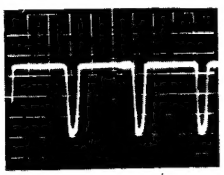
⑭ 6.4Vp-p



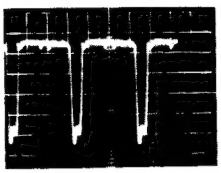
⑮ 16Vp-p



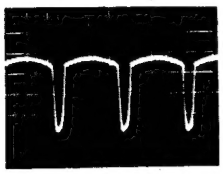
⑯ 1Vp-p



⑰ 700Vp-p

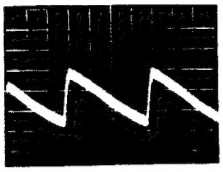


⑱ 100Vp-p



⑲ 620Vp-p

⑳ 70Vp-p



㉑ 0.6Vp-p

REPLACEMENT PARTS LIST

CABINET PARTS FOR TR-579EX

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
	MAIN PARTS	
1	TKA812101-1H	Cabinet
2	TKS80312	Bottom Plate
3	TKE805603-2	Escutcheon Complete
4	TKP8011585-1	Front Panel Complete
5	TKP8052720	Aluminum Panel (Big)
6	TKP8052730	Aluminum Panel (Small)
7	TKU827303-1H	Rear Cover Complete
8	TBM82693	Model Plate
9	TBM80363	Panasonic Badge
10	TBX80760	VHF Inner Knob
11	TBX80758	VHF Outer Knob
12	TBX80759	UHF Inner Knob
13	TBX80757	UHF Outer Knob
14	TBX80350-1	Volume Knob
15	TBX80570	Small Knob
16	TKK800358	UHF Indicator Lens
17	TBY80247	VHF Indicator Plate
18	TKK800357-6	UHF Indicator Plate
19	TKK800938	Feather Touch Plate
20	TKK1523-1	Handle Cover Plate
21	TKX803801	Tuner Bracket
22	TKK800227-1	Handle Complete
23	TMM6956	Cord Hanger
24	TKX805001	Chassis Boss (Right)
25	TKX805101	Chassis Boss (Left)
26	TMM1553	Set Leg
27	500XB4	Picture Tube
28	TNP81820-81	Main Circuit Board Complete
29	TXANP2579EX	Power Circuit Board Complete
30	TNP81918-81	Feather Touch Circuit Board Complete
31	TNP81827X-2	Earphone Socket Circuit Board Complete
32	TNP81208-83	Sound-IF Circuit Board Complete
33	TNT96220NE	VHF Tuner
34	TNK36116E	UHF Tuner
35	TLP80221-2	Power Transformer
36	TLY3456-4DS	Deflection Yoke
37	EAS9P67SA	Speaker
38	EAE3YDAA	Earphone
39	TSA8108	Rod Antenna
40	TSE80302S	Slide Switch
41	XBA1C15NS5	Fuse 1.5A
42	XBA1C08NS5	Fuse 0.8A
43	TSX141-1	Power Cord
44	TNQ8904	Splitter
45	TKZ624S	Antenna Terminal
46	TJS869070	Earphone Socket
47	TJS69410	5-P Plug

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
L91	TLR809318	Balun Coil
	TJS868080	A Plug
61	TJS69751	Voltage Selector Plug
62	TJS828102S	Voltage Selector Socket
VR51	EVAQMA20CU54	Volume Control
VR62	EVVBIAF25E52	Contrast Control
VR63	EVVBOAF25B55	Brightness Control
	TPC814081	Inner Carton
	TXAPD2579	Filler Complete
	TPE84014	Set Cover
	TQB83544	Fan Bag
	TQB82544	Instruction Book
63	TWH810065	High Voltage Wire With Cap
64	TMM81544SE	Selen., CAP
D48	TVM570	High Voltage Rectifire
C192	ECEA16V10L	Electrolytic 10UF 16V
CR91	TXNU471G20	Capristor
CR92	TXNU471G20	Capristor
C193	ECKD1H473ZF	Ceramic 0.047UF +80%–20% 50V
L701	TLP80602	Filter Choke Coil
L702	TLP80602	Filter Choke Coil
C781	ECQU2A563MD	Polyester 0.056UF +20%–20%
R345	ERD14TJ124	Carbon 120KOhm +5%–5% ¼W
R346	ERD14TJ104	Carbon 100KOhm +5%–5% ¼W
R552	TRF40GM261	Non Flame 260Ohm 40W
	TLP80602	Filter Chock Coil
	TJB80305-1SE	Filter Chock Coil Mounting Board
R581	ERD14TJ560	Carbon 56Ohm +5%–5% ¼W
C195	ECEA16V10L	Electrolytic 10UF 16V
C196	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C197	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
	TMM81431	Sound-IF Circuit Board Complet Bushing
65	TJS818020	5-P Socket
C230	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
TR1	2SC683	R-F AMP. Transistor
TR2	2SC717	MIX. Transistor
TR3	2SC717	OSC. Transistor
	SCREWS & WASHERS	
48	THE210-5	Rear Cover Mounting Screw
49	XTV3+8A	Voltage Selector Socket Mounting Screw
50	TMM407-1	Picture Tube Mounting Rubber
51	XWG5G20	Picture Tube Mounting Washer
52	THT943	Picture Tube Mounting Screw
53	XWG4X16	Handle Mounting Washer
54	XWA4B	Handle Mounting Spring Washer
55	XSN4+10S	Handle Mounting Screw
56	XTB4+12A	Escutcheon Mounting Screw
57	XTB4+12B	Set Leg Mounting Screw
58	XTV3+10B	Tuner Mounting Screw
59	THE329S	Voltage Selector Plug Mounting screw
60	TJC3316	Fuse Terminal

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
TNP81918-81		
	SWITCH	
L81	TSE80807	Relay Switch
	TRANSISTORS	
TR81	2SC828A	Transistor
TR82	2SC828A	Transistor
TR83	2SC828A	Transistor
TR84	2SC828A	Transistor
TR85	2SC828A	Transistor
TR86	2SC828A	Transistor
TR87	2SC828A	Transistor
TR88	2SC1317	Transistor
TR89	2SC1317	Transistor
	DIODES	
D81	TVS10D1	Diode
D82	TVS10D1	Diode
D83	TVS10D1	Diode
D84	MA150	Diode
	CAPACITORS	
C801	ECQM05103KZ	Polyester 0.01UF +10%–10% 50V
C802	ECQM05154KZ	Polyester 0.15UF +10%–10% 50V
C803	ECQM05152KZ	Polyester 1500PF +10%–10% 50V
C804	ECKD1H471KB	Ceramic 470PF +10%–10% 50V
C805	ECKD1H471KB	Ceramic 470PF +10%–10% 50V
C806	ECEA16V1000L	Electrolytic 1000UF 16V
C807	ECEA16V1000L	Electrolytic 1000UF 16V
C808	ECEA6V1000L	Electrolytic 1000UF 6V
	RESISTORS	
R801	ERC12GJ125	Solid 1.2MOhm +3%–5% ½W
R802	ERC12GJ125	Solid 1.2MOhm +5%–5% ½W
R803	ERC12GJ565	Solid 5.6MOhm +5%–5% ½W
R804	ERD14TJ153	Carbon 15KOhm +5%–5% ¼W
R805	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R806	ERD14TJ154	Carbon 150KOhm +5%–5% ¼W
R807	ERD14TJ683	Carbon 68KOhm +5%–5% ¼W
R808	ERD14TJ153	Carbon 15KOhm +5%–5% ¼W
R809	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R810	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R811	ERD14TJ471	Carbon 470Ohm +5%–5% ¼W
R812	ERD14TJ273	Carbon 27KOhm +5%–5% ¼W
R813	ERD14TJ123	Carbon 12KOhm +5%–5% ¼W
R814	ERD14TJ273	Carbon 27KOhm +5%–5% ¼W
R815	ERD14TJ273	Carbon 27KOhm +5%–5% ¼W
R816	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R817	ERD14TJ472	Carbon 4.7KOhm +5%–5% ¼W
R818	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R819	ERD14TJ222	Carbon 2.2KOhm +5%–5% ¼W
R820	ERD14TJ392	Carbon 3.9KOhm +5%–5% ¼W
R821	ERD14TJ100	Carbon 10Ohm +5%–5% ¼W
R822	ERD14TJ471	Carbon 470Ohm +5%–5% ¼W
R823	ERC12GJ560	Solid 56Ohm +5%–5% ½W
R824	ERD14TJ1R0	Carbon 1Ohm +5%–5% ¼W
R825	ERD14TJ102	Carbon 1KOhm +5%–5% ¼W
R826	ERG2ANJ681	Metal Oxide 680Ohm +5%–5% 2W
TNP81820-81		
	TRANSISTORS	
TR11	2SC1686	1st Video-IF Amp
TR12	2SC1687	2nd Video-IF Amp
TR13	2SC1687	3rd Video-IF Amp
TR14	2SC829C	Video Amp
TR15	2SC1566	Video Output
TR17	2SA564A	Sync. Sept.
TR18	2SC828A	IF AGC
TR19	2SA564A	RF AGC
TR21	2SC1359	4.5MHz Sound-IF
TR31	2SC828A	Vert. Osc.
TR32	2SC828A	Vert. Amp.
TR33	2SC1566	Vert. Drive
TR34	2SD389BLB	Vert. Output
TR35	2SB546-1	Vert. Output
TR36	2SC828A	Blanking
TR41	2SC828A	Sync. Amp.
TR42	2SC828A	Horiz. Osc.
TR43	2SC1446LB	Horiz. Amp.
TR44	2SD200A	Horiz. Output
TR51	2SC828A	Audio Amp.
TR52	2SD198V	Audio Output.
TR55	2SD198V	AVR
TR56	2SC1566	AVR
	DIODES	
D11	MA150	IF AGC
D12	OA91	Video Det.
D13	MA26	AGC
D21	OA91	Sound Det.
D22	OA91	Sound Det.
D32	MA26WA	Vert. Output
D33	MA26WA	Balance
D41	MA150	AFC
D42	MA150	AFC
D44	TVS10D2	Rectifire
D47	TVS10D2	Spot Killer
D49	MA150	Blanking
D51	TVS10DC4	Power Rectifire
D52	TVS10DC4R	Power Rectifire
D56	TVS10D1	AVR
D57	TVS1N5273B	AVR
	COILS & TRANSFORMERS	
L101	TLI803502	Sound Trap
L102	TLI803502	Adjacent Sound Trap
L103	TLI801333	Video-IF Trans.
L104	TLI801325	1st Interstage Coupling Coil
L105	TIL801326	2nd Interstage Coupling Coil
L106	TLI801331	3rd Interstage Coupling Coil
L107	TLI801332	Video Detector Coil
L108	TLM080-999	Peaking Coil 8UH
L109	TLQ038-999	Peaking Coil 3.8UH
L110	TLT251-999	Peaking Coil 250UH
L141	TLT028-999	Peaking Coil 2.8UH
L151	TLU121-123	Peaking Coil 120UH
L152	TLT391-999	Peaking Coil 390UH
L171	TLT151-999	Peaking Coil 150UH
L201	TLS804304	Sound-IF Input Trans.
L202	TLS802303	Discriminator Plimary
L203	TLS802304	Discriminator Secondary
L204	TLT028-999	Peaking Coil 2.8UH
L211	TLT028-999	Peaking Coil 2.8UH
L251	TLT821-999	Peaking Coil 820UH
L421	TLH3112-4	Horiz. Hold Trans.
L431	TLH80407	Horiz. Drive Trans.
L432	TLP408	Chock Coil
L433	TLP408	Choke Coil
L441	TLH3802C	Horiz. Line. Coil
L445	TLH3708	Horiz. Width Coil

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
L446	TLF80507DS	Flyback Trans.
	CAPACITORS	
C101	ECCD1H470J	Ceramic 47PF +5%–5% 50V
C102	ECCD1H030CC	Ceramic 3PF +0.25PF–0.25PF 50V
C103	ECCD1H080D	Ceramic 8PF +0.25PF–0.25PF 50V
C104	ECCD1H050CT	Ceramic 5PF +0.25PF–0.25PF 50V
C105	ECCD1H050CT	Ceramic 5PF +0.25PF–0.25PF 50V
C107	ECCD1H180K	Ceramic 18PF +10%–10% 50V
C108	ECCD1H180K	Ceramic 18PF +10%–10% 50V
C109	ECCD1H080D	Ceramic 8PF +0.5PF–0.5PF 50V
C110	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C111	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C112	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C113	ECCD1H300J	Ceramic 30PF +5%–5% 50V
C115	ECCK1H151K	Ceramic 150PF +10%–10% 50V
C116	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C117	ECCD1H040CC	Ceramic 4PF +0.25PF–0.25PF 50V
C118	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C119	ECCD1H470JS	Ceramic 47PF +5%–5% 50V
C120	ECCD1H181J	Ceramic 180PF +5%–5% 50V
C121	ECCD1H150JS	Ceramic 15PF +5%–5% 50V
C122	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C128	ECEA16V10L	Electrolytic 10UF 16V
C123	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C124	ECCD1H100D	Ceramic 10PF +0.5PF–0.5PF 50V
C125	ECKD1H103PF	Ceramic 0.01UF +100%–5% 50V
C126	ECKD1H102KB	Ceramic 1000PF +10%–10% 50V
C127	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C129	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C131	ECCD1H390K	Ceramic 39PF +10%–10% 50V
C133	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C134	ECCD1H060DC	Ceramic 6PF +0.5PF–0.5PF 50V
C135	ECCD1H050D	Ceramic 5PF +0.5PF–0.5PF 50V
C139	ECEA16V220L	Electrolytic 220UF 16V
C140	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C141	ECKD1H391KB	Ceramic 390PF +10%–10% 50V
C153	ECEA10V220L	Electrolytic 220UF 10V
C154	ECQM05392KZ	Polyester 3900PF +10%–10% 50V
C156	ECQM1154KZ	Polyester 0.15UF +10%–10% 125V
C158	ECEA350V3R3	Electrolytic 3.3UF 350V
C171	ECEA50ZR47M	Electrolytic 0.47UF 50V
C172	ECQM05473KZ	Polyester 0.047UF +10%–10% 50V
C174	ECCD1H390K	Ceramic 39PF +10%–10% 50V
C181	ECEA10V100L	Electrolytic 100UF 10V
C182	ECQM05104KZ	Polyester 0.1UF +10%–10% 50V
C183	ECSZ10EF10N	Electrolytic 10UF 10V
C191	ECEA16V10L	Electrolytic 10U 16V
C193	ECEA16V10L	Electrolytic 10UF 16V
C201	ECCD1H471K	Ceramic 470PF +10%–10% 50V
C202	ECKD1H103MD	Ceramic 0.01UF +20%–20% 50V
C204	ECCD1H101K	Ceramic 100PF +10%–10% 50V
C206	ECKD1H471MB	Ceramic 470PF +20%–20% 50V
C208	ECQS1121K	Styrol 120PF +10%–10% 125V
C209	ECEA16V10L	Electrolytic 10UF 16V
C210	ECEA16V10L	Electrolytic 10UF 16V
C211	ECQM05103KZ	Polyester 0.01UF +10%–10% 50V
C215	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C222	ECKD1H473ZF	Ceramic 0.047UF +80%–20% 50V
C251	ECEA16V220LE	Electrolytic 220UF 16V
C301	ECQM05473KZ	Polyester 0.047UF +10%–10% 50V
C302	ECQM05473KZ	Polyester 0.047UF +10%–10% 50V
C303	ECQM05333KZ	Polyester 0.033UF +10%–10% 50V
C304	ECQM05393JZ	Polyester 0.039UF +5%–5% 50V
C305	ECSZ10EF10N	Electrolytic 10UF 10V
C306	ECSZ10EF10N	Electrolytic 10UF 10V
C307	ECEA16V10LE	Electrolytic 10UF 16V

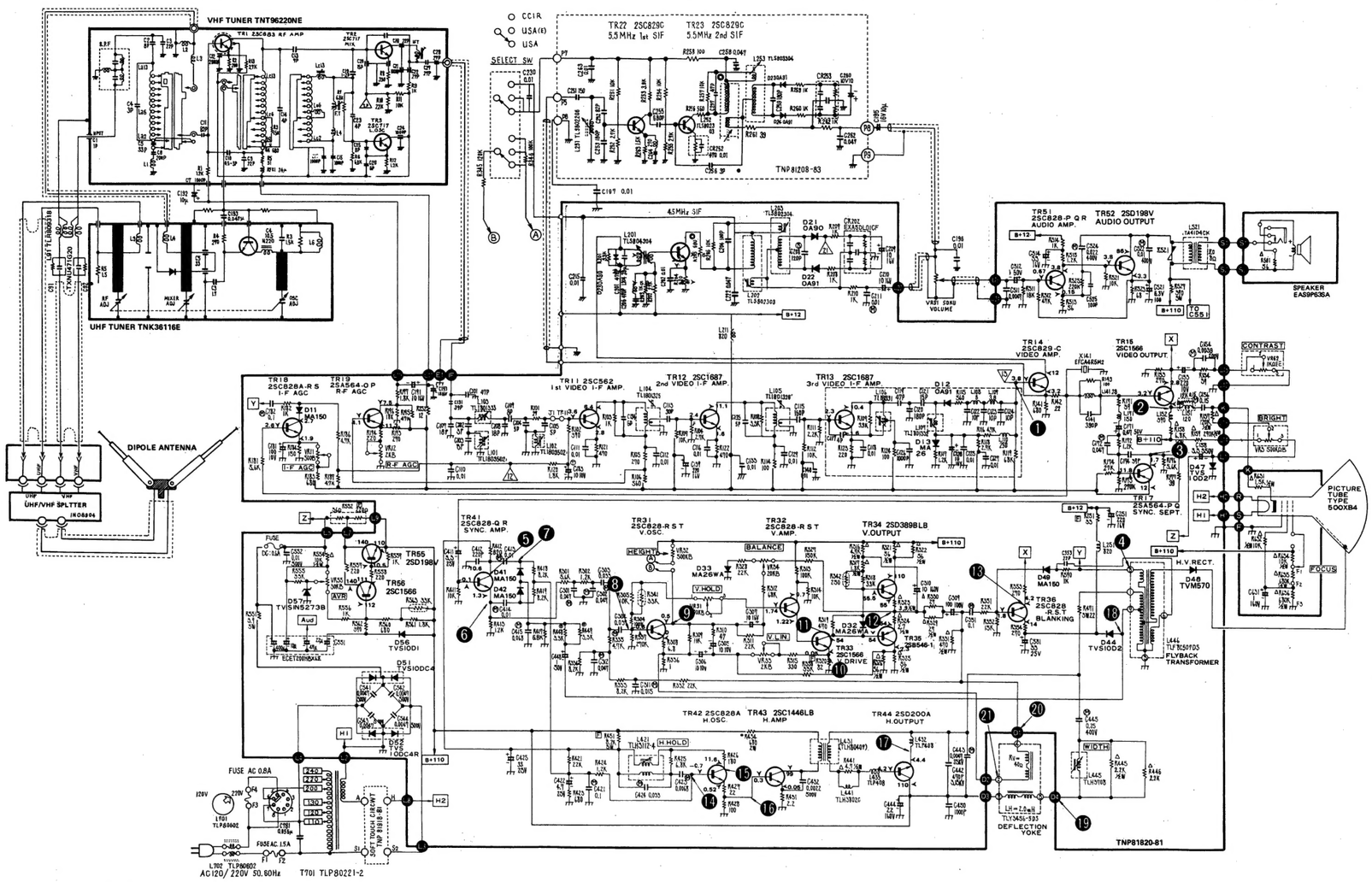
REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
C309	ECEA100V100L	Electrolytic 100UF 100V
C310	ECEA160V10Q	Electrolytic 10UF 160V
C311	ECQM05153KZ	Polyester 0.015UF +10%–10% 50V
C312	ECQM05473KZ	Polyester 0.047UF +10%–10% 50V
C351	ECQM05104KZ	Polyester 0.1UF 50V
C353	ECCD2H220K	Ceramic 22PF +10%–10% 500V
C411	ECEA25V3R3L	Electrolytic 3.3UF 25V
C412	ECCD1H221K	Ceramic 220PF +10%–10% 50V
C413	ECQM05103KZ	Polyester 0.01UF +10%–10% 50V
C414	ECQM05103KZ	Polyester 0.01UF +10%–10% 50V
C415	ECQM05683KZ	Polyester 0.068UF +10%–10% 50V
C421	ECQM05104KZ	Polyester 0.1UF +10%–10% 50V
C422	ECEA25V4R7L	Electrolytic 4.7UF 25V
C423	ECQM05682KZ	Polyester 6800PF +10%–10% 50V
C424	ECQM05333JZ	Polyester 0.033UF +5%–5% 50V
C425	ECEA25V33L	Electrolytic 33UF 25V
C432	ECKD2H222MB	Ceramic 2200PF +20%–20% 500V
C442	ECKD3F471KB	Ceramic 470PF +10%–10% 3KV
C443	ECQD10H472K	Polyester 4700PF +10%–10% 1KV
C444	ECEA160V22Y	Electrolytic 22UF 160V
C445	ECQM4254KZ	Polyester 0.25UF +10%–10% 400V
C448	ECEA50V1L	Electrolytic 1UF 50V
C450	ECKD2H102PE	Ceramic 1000PF +100%–0% 500V
C511	ECKD1H472PF	Ceramic 4700PF +100%–0% 50V
C512	ECEA50V1L	Electrolytic 1UF 50V
C514	ECEA16V33L	Electrolytic 33UF 16V
C521	ECEA6V100V	Electrolytic 100UF 6V
C522	ECQM4103KZ	Polyester 0.01UF +10%–10% 400V
C524	ECQM2223KZ	Polyester 0.022UF +10%–10% 200V
C525	ECCD2H101KB	Ceramic 100PF +10%–10% 500V
C541	ECKD2H472PE	Ceramic 4700PF +100%–0% 500V
C542	ECKD2H472PE	Ceramic 4700PF +100%–0% 500V
C543	ECKD2H472PE	Ceramic 4700PF +100%–0% 500V
C544	ECKD2H472PE	Ceramic 4700PF +100%–0% 500V
C551	ECET200HBX6Z	Electrolytic 200V
C552	ECKD2H103PE	Ceramic 0.01UF +100%–0% 200V
C581	ECEA25V33L	Electrolytic 33UF 25V
C631	ECEA160V1	Electrolytic 1UF 160V
	C–R COMBINATIONS	
X141	EFCA4R5M2	4.5MHZ Cerap
CR202	EXA5DL01C	C–R Combination
	VARIABLE RESISTORS	
VR11	EVTS3AA00B52	IF AGC 500OhmB
VR12	EVTS3AA00B23	RF AGC 2KOhmB
VR31	EVD66A25KB25	VERT Hold 200KOhmB
VR32	EVTV0AA00B55	VERT Height 500KOhmB
VR33	EVTV0AA00B23	VERT Lin. 2KOhmB
VR34	EVTS3AA00B24	Balance 20KOhmB
VR55	EVTV0AA00B34	AVR 30KOhmB
	RESISTERS	
R101	ERD14TJ270	Carbon 27Ohm +5%–5% ¼W
R102	ERD14TJ391	Carbon 390Ohm +5%–5% ¼W
R103	ERD14TJ102	Carbon 1KOhm +5%–5% ¼W
R104	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R105	ERD14TJ271	Carbon 270Ohm +5%–5% ¼W
R106	ERD14TJ561	Carbon 560Ohm +5%–5% ¼W
R107	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R108	ERD14TJ152	Carbon 1.5KOhm +5%–5% ¼W
R109	ERD14TJ332	Carbon 3.3KOhm +5%–5% ¼W
R111	ERD14TJ222	Carbon 2.2KOhm +5%–5% ¼W
R112	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R114	ERD14TJ101	Carbon 100Ohm +5%–5% ¼W

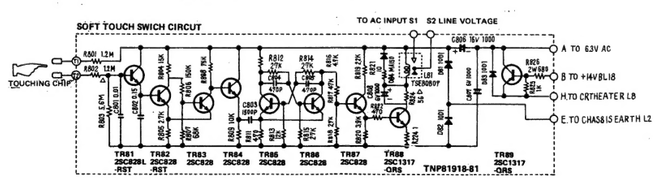
REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION				REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION			
R115	ERD14TJ561	Carbon	560Ohm	+5%–5%	¼W	R324	ERD12FJ2R7	Carbon	2.7Ohm	+5%–5%	½W
R116	ERD14TJ472	Carbon	4.7KOhm	+5%–5%	¼W	R325	ERD12FJ560	Carbon	56Ohm	+5%–5%	½W
R117	ERD14TJ122	Carbon	1.2KOhm	+5%–5%	¼W	R326	ERD12FJ560	Carbon	56Ohm	+5%–5%	½W
R118	ERD14TJ272	Carbon	2.7KOhm	+5%–5%	¼W	R327	ERD14TJ154	Carbon	150KOhm	+5%–5%	¼W
R119	ERD14TJ683	Carbon	68KOhm	+5%–5%	¼W	R328	ERD14TJ223	Carbon	22KOhm	+5%–5%	¼W
R120	ERD14TJ182	Carbon	1.8KOhm	+5%–5%	¼W	R329	ERC12GJ270	Solid	27Ohm	+5%–5%	½W
R121	ERD14TJ471	Carbon	470Ohm	+5%–5%	¼W	R330	ERC12GJ270	Solid	27Ohm	+5%–5%	½W
R122	ERD14TJ471	Carbon	470Ohm	+5%–5%	¼W	R331	ERC12GJ471	Solid	470Ohm	+5%–5%	½W
R123	ERD14TJ221	Carbon	220Ohm	+5%–5%	¼W	R332	ERD14TJ223	Carbon	22KOhm	+5%–5%	¼W
R124	ERD14TJ101	Carbon	100Ohm	+5%–5%	¼W	R333	ERD14TJ822	Carbon	8.2KOhm	+5%–5%	¼W
R141	ERD14TJ681	Carbon	680Ohm	+5%–5%	¼W	R334	ERD14TJ822	Carbon	8.2KOhm	+5%–5%	¼W
R142	ERD14TJ220	Carbon	22Ohm	+5%–5%	¼W	R335	ERD14TJ472	Carbon	4.7KOhm	+5%–5%	¼W
R143	ERD14TJ101	Carbon	100Ohm	+5%–5%	¼W	R336	ERD14TJ1R0	Carbon	1Ohm	+5%–5%	¼W
R153	ERD14TJ271	Carbon	270Ohm	+5%–5%	¼W	R337	ERD14TJ274	Carbon	270KOhm	+5%–5%	¼W
R154	ERD14TJ390	Carbon	39Ohm	+5%–5%	¼W	R338	ERD14TJ333	Carbon	33KOhm	+5%–5%	¼W
R157	ERC12GJ124	Solid	120KOhm	+5%–5%	½W	R341	ERTD2ZHL333	Termistor			
R158	ERC12GJ682	Solid	6.8KOhm	+5%–5%	½W	R342	ERTD2ZGL251	Termistor			
R159	ERC12GJ274	Solid	270KOhm	+5%–5%	½W	R351	ERD14TJ223	Carbon	22KOhm	+5%–5%	¼W
R171	ERD14TJ390	Carbon	39Ohm	+5%–5%	¼W	R352	ERD14TJ153	Carbon	15KOhm	+5%–5%	¼W
R172	ERD14TJ122	Carbon	1.2KOhm	+5%–5%	¼W	R353	ERD14TJ271	Carbon	270Ohm	+5%–5%	¼W
R173	ERD14TJ274	Carbon	270KOhm	+5%–5%	¼W	R354	ERD14TJ271	Carbon	270Ohm	+5%–5%	¼W
R174	ERD14TJ273	Carbon	27KOhm	+5%–5%	¼W	R411	ERD14TJ103	Carbon	10KOhm	+5%–5%	¼W
R176	ERD14TJ562	Carbon	5.6KOhm	+5%–5%	¼W	R412	ERD14TJ821	Carbon	820Ohm	+5%–5%	¼W
R177	ERD14TJ390	Carbon	39Ohm	+5%–5%	¼W	R413	ERD14TJ122	Carbon	1.2KOhm	+5%–5%	¼W
R181	ERD14TJ562	Carbon	5.6KOhm	+5%–5%	¼W	R417	ERD14TJ682	Carbon	6.8KOhm	+5%–5%	¼W
R182	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W	R418	ERD14TJ822	Carbon	8.2KOhm	+5%–5%	¼W
R183	ERD14TJ681	Carbon	680Ohm	+5%–5%	¼W	R419	ERD14TJ822	Carbon	8.2KOhm	+5%–5%	¼W
R184	ERD14TJ151	Carbon	150Ohm	+5%–5%	¼W	R421	ERD14TJ223	Carbon	22KOhm	+5%–5%	¼W
R186	ERD14TJ472	Carbon	4.7KOhm	+5%–5%	¼W	R423	ERD14TJ681	Carbon	680Ohm	+5%–5%	¼W
R187	ERD14TJ472	Carbon	4.7KOhm	+5%–5%	¼W	R424	ERD14TJ122	Carbon	1.2KOhm	+5%–5%	¼W
R193	ERD14TJ271	Carbon	270Ohm	+5%–5%	¼W	R425	ERD14TJ682	Carbon	6.8KOhm	+5%–5%	¼W
R194	ERD14TJ221	Carbon	220Ohm	+5%–5%	¼W	R426	ERD14TJ181	Carbon	180Ohm	+5%–5%	¼W
R195	ERD14TJ473	Carbon	47KOhm	+5%–5%	¼W	R427	ERD14TJ220	Carbon	22Ohm	+5%–5%	¼W
R196	ERD14TJ183	Carbon	18KOhm	+5%–5%	¼W	R428	ERD14TJ101	Carbon	100Ohm	+5%–5%	¼W
R197	ERD14TJ182	Carbon	1.8KOhm	+5%–5%	¼W	R431	ERD14TJ2R2	Carbon	2.2Ohm	+5%–5%	¼W
R201	ERD14TJ332	Carbon	3.3KOhm	+5%–5%	¼W	R434	ERG2ANJ681	Metal Oxide	680Ohm	+5%–5%	2W
R202	ERD14TJ272	Carbon	2.7KOhm	+5%–5%	¼W	R441	ERC12GJ4R7	Solid	4.7Ohm	+5%–5%	½W
R203	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W	R445	ERC12GJ222	Solid	2.2KOhm	+5%–5%	½W
R204	ERD14TJ821	Carbon	820Ohm	+5%–5%	¼W	R446	ERC12GJ222	Solid	2.2KOhm	+5%–5%	½W
R205	ERD14TJ681	Carbon	680Ohm	+5%–5%	¼W	R448	ERC12GJ332	Solid	3.3KOhm	+5%–5%	½W
R206	ERD14TJ103	Carbon	10KOhm	+5%–5%	¼W	R449	ERC12GJ332	Solid	3.3KOhm	+5%–5%	½W
R208	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W	R451	TRF3SJ822	Non Flame	8.2KOhm	+5%–5%	3W
R209	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W	R471	TRF3SJ220	Non Flame	22Ohm	+5%–5%	3W
R210	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W	R511	ERD14TJ183	Carbon	18KOhm	+5%–5%	¼W
R251	ERD14FJ330	Carbon	33Ohm	+5%–5%	¼W	R512	ERD14TJ473	Carbon	47KOhm	+5%–5%	¼W
R252	ERD14TJ120	Carbon	12Ohm	+5%–5%	¼W	R513	ERD14TJ560	Carbon	56Ohm	+5%–5%	¼W
R301	ERD14TJ562	Carbon	5.6KOhm	+5%–5%	¼W	R514	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W
R302	ERD14TJ122	Carbon	1.2KOhm	+5%–5%	¼W	R515	ERD14TJ122	Carbon	1.2KOhm	+5%–5%	¼W
R304	ERD14TJ104	Carbon	100KOhm	+5%–5%	¼W	R521	ERD14TJ103	Carbon	10KOhm	+5%–5%	¼W
R305	ERD14TJ103	Carbon	10KOhm	+5%–5%	¼W	R523	ERD14TJ680	Carbon	68Ohm	+5%–5%	¼W
R308	ERD14TJ6R8	Carbon	6.8Ohm	+5%–5%	¼W	R525	ERD14TJ224	Carbon	220KOhm	+5%–5%	¼W
R309	ERD14TJ103	Carbon	10KOhm	+5%–5%	¼W	R527	TRF3SJ391	Non Flame	390Ohm	+5%–5%	3W
R310	ERD14TJ470	Carbon	47Ohm	+5%–5%	¼W	R551	TRF5SK3R9	Non Flame	3.9Ohm	+5%–5%	5W
R311	ERD14TJ223	Carbon	22KOhm	+5%–5%	¼W	R554	ERC12GJ103	Solid	10KOhm	+5%–5%	½W
R312	ERD14TJ683	Carbon	68KOhm	+5%–5%	¼W	R555	ERD14TJ333	Carbon	33KOhm	+5%–5%	¼W
R313	ERD14TJ104	Carbon	100KOhm	+5%–5%	¼W	R556	ERD14FJ102	Carbon	1KOhm	+5%–5%	¼W
R314	ERD14TJ103	Carbon	10KOhm	+5%–5%	¼W	R557	ERD14FJ221	Carbon	220Ohm	+5%–5%	¼W
R315	ERD14TJ331	Carbon	330Ohm	+5%–5%	¼W	R558	ERD14FJ221	Carbon	220Ohm	+5%–5%	¼W
R316	ERC12GJ472	Solid	4.7KOhm	+5%–5%	½W	R559	ERD14FJ102	Carbon	1KOhm	+5%–5%	¼W
R317	ERC12GJ182	Solid	1.8KOhm	+5%–5%	½W	R560	ERD14FJ681	Carbon	680Ohm	+5%–5%	¼W
R318	ERD14TJ332	Carbon	3.3KOhm	+5%–5%	¼W	R561	ERD14FJ182	Carbon	1.8KOhm	+5%–5%	¼W
R319	ERD14TJ471	Carbon	470Ohm	+5%–5%	¼W	R562	ERD14FJ391	Carbon	390Ohm	+5%–5%	¼W
R320	ERD14FJ820	Carbon	82Ohm	+5%–5%	¼W	R563	ERTD2ZHL332S	Thermistor			
R321	ERD12FJ560	Carbon	560hm	+5%–5%	½W	R590	ERD14TJ102	Carbon	1KOhm	+5%–5%	¼W
R322	ERD12FJ560	Carbon	560hm	+5%–5%	½W	R631	ERC12GJ152	Solid	1.5KOhm	+5%–5%	½W
R323	ERD12FJ3R9	Carbon	3.9Ohm	+5%–5%	½W	R632	ERC12GJ103	Solid	10KOhm	+5%–5%	½W

REF. NO.	PARTS NO.	PARTS NAME & DESCRIPTION
R634	ERC12GJ103	Solid 10KOhm +5%–5% ½W
R635	ERC12GJ684	Solid 680KOhm +5%–5% ½W
R636	ERC12GJ684	Solid 680KOhm +5%–5% ½W
Z521	ERVIF2820M	Varistor 1W
	OTHERS	
	TJC3316	Fuse Holder
	TJS25650	Picture Tube Socket
L521	TTA41D4CK	Audio Output Trans.
	XBAT21601-G	Fuse 0.6A
	TNP81208-83	
	TRANSISTORS	
TR22	2SC829C	1st Sound-I-F
TR23	2SC829C	2nd Sound-I-F
	DIODES	
D23	0A91	Sound Det.
D24	0A91	Sound Det.
	COILS & TRANSFORMERS	
L251	TLS802206	Sound-I-F Input Trans
L252	TLS802303	Discriminatur Primary
L253	TLS803304	Discriminator Secondary
L254	TLT028-999	Peaking Coil 2.8UH
	CAPACITORS	
C251	ECCD1H151K	Ceramic 150PF +10%–10% 50V
C252	ECCD1H820K	Ceramic 82PF +10%–10% 50V
C253	ECCD1H181J	Ceramic 180PF +5%–5% 50V
C255	ECKD1H681KB	Ceramic 680PF +10%–10% 50V
C256	ECCD1H030CC	Ceramic 3PF +0.25PF–0.25PF 50V
C257	ECCD1H470K	Ceramic 47PF +10%–10% 50V
C258	ECKD1H473ZF	Ceramic 0.047PF +80%–20% 50V
C259	ECQS1181K	Styrol 180PF +10%–10% 125V
C260	ECEA10V10L	Electrolytic 10UF 10V
C262	ECQM05473KZ	Polyester 0.047UF +10%–10% 50V
C263	ECKD1H103PF	Ceramic 0.01UF +100%–0% 50V
C264	ECCD1H271K	Ceramic 270PF +10%–10% 50V
	RESISTORS	
R251	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R252	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R253	ERD14TJ392	Carbon 3.9KOhm +5%–5% ¼W
R254	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R255	ERD14TJ272	Carbon 2.7KOhm +5%–5% ¼W
R256	ERD14TJ561	Carbon 560Ohm +5%–5% ¼W
R257	ERD14TJ103	Carbon 10KOhm +5%–5% ¼W
R258	ERD14TJ101	Carbon 100Ohm +5%–5% ¼W
R259	ERD14TJ102	Carbon 1KOhm +5%–5% ¼W
R260	ERD14TJ102	Carbon 1KOhm +5%–5% ¼W
R261	ERD14TJ390	Carbon 39Ohm +5%–5% ¼W
R262	ERD14TJ102	Carbon 1KOhm +5%–5% ¼W
R263	ERD14TJ152	Carbon 1.5KOhm +5%–5% ¼W
	C-R COMBINATIONS	
CR252	EXAP103Z471	C-R Combination
CR253	EXA5DL01C	C-R Combination

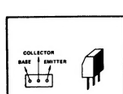
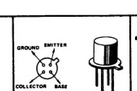
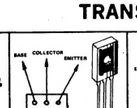
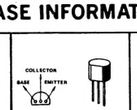
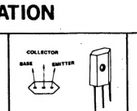
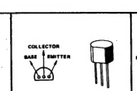
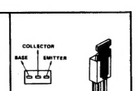
SCHEMATIC DIAGRAM FOR MODEL TR-579EX

CHASSIS No. T203V-A

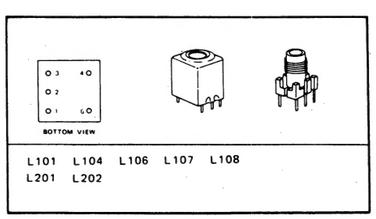




TRANSISTOR BASE INFORMATION

							
2SC717	2SC683	TVSSJE5472	2SD200A	2SA564A 2SC829C 2SC828A	2SC1566	2SC1686 2SC1687	2SD389B

TRANSFORMER TERMINAL INFORMATION



NOTE

1. RESISTOR
   All resistors are carbon 1/4W resistor, unless otherwise noted the following marks.
   Unit of resistance is OHM (Ω). (K=1,000, M=1,000,000)
   △ : Solid resistor ● : Metal oxide resistor
   □ : Wire wound resistor : Thermistor
   : Fuse resistor
2. CAPACITOR
   All capacitors are ceramic 50V capacitor, unless otherwise noted the following marks.
   Unit of capacitance is μF, unless otherwise noted.
   Ⓜ : Polyester capacitor Ⓢ : Polystylene capacitor
   : Electrolytic capacitor
3. COIL
   Unit of inductance is μH.
4. TEST POINT
   ▽ : Test point position.
5. VOLTAGE MEASUREMENT
   Voltage is measured by a volt ohm meter with DC 20K OHM/V receiving normal signal, when all controls are set to the maximum position.
6. Number in red circle indicates waveform number.
7. When arrow mark (↗) is found, connection is easily found along with the direction of an arrow.
8. When schematic diagram of a board is described in more than two places, they are encircled with dotted line (— - —).
9. This schematic diagram is the latest at the time of printing and subject to change without notice.

(Nov,'75)

EXPLODED VIEW